

AMENDMENT TO THE CLAIMS

Claims 1-8 (canceled).

Claim 9. (previously presented) A liquid processing apparatus as claimed in Claim 10, wherein

the ejecting orifices are formed so as to eject the processing liquid in a substantially fan-shaped pattern.

Claim 10. (currently amended) A liquid processing apparatus comprising:

a processing container surrounding a processing chamber in which ~~one or more~~ a plurality of substrates to be processed are accommodated, the substrates being shaped in circular plates;

a substrate holder arranged in the processing container for holding the substrates which are juxtaposed in an axial direction of the circular substrates in such a way that processing surfaces of the substrates are arranged in parallel with each other and for rotating the substrates about the axis of the circular substrates; and

a nozzle arranged in the processing container for supplying the substrates with a processing liquid thereby to carry out a liquid process, the nozzle having a plurality of ejecting orifices juxtaposed with the plural substrates, the ejecting orifices ejecting to ~~eject~~ the processing liquid in a plane which is substantially parallel with the substrates held by the substrate holder;

~~wherein the substrates consist of a plurality of substrates whose processing surfaces to be processed thereon are arranged generally parallel with each other;~~

~~wherein the ejecting orifices are juxtaposed with the plural substrates;~~

~~wherein the substrates are arranged so as to be rotatable about substantial centers thereof;~~

~~wherein the nozzle is formed so as to eject the processing liquid obliquely to the processing surfaces of the plural substrates and to substantial centers of the substrates;~~

~~wherein each of the substrates is in the form of a circular plate; and~~

~~wherein the ejecting orifices nozzle is formed so as to eject the processing liquid toward substantial centers against the processing surface of the substrates held by the substrate holder and obliquely so that a width of the plane-ejected processing liquid is generally equal to the diameter of the substrate, on to the processing surfaces surface of the plural substrates in such a way that the plane of ejecting processing liquid and the surface of the substrates forms a little angle, the ejecting orifices being formed so as to eject the processing liquid against the processing surfaces of the substrates held by the substrate holder so that a width of the plane-ejected processing liquid are generally equal to the diameters of the substrates.~~

Claim 11. (currently amended) A liquid processing apparatus comprising:

a processing container surrounding a processing chamber in which a plurality of one or more substrates to be processed are accommodated, the substrates being shaped in circular plates;

a substrate holder arranged in the processing container for holding the substrates which are juxtaposed in an axial direction of the circular substrates in such a way that processing surfaces of the substrates are arranged in parallel with each other and for rotating the substrates about the axis of the circular substrates; and

a nozzle arranged in the processing container for supplying the substrates with a processing liquid thereby to carry out a liquid process, the nozzle having ejecting orifices to eject the processing liquid in a plane which is substantially parallel with the substrates, the ejecting orifices being formed so as to eject the processing liquid towards substantial centers of the substrates held by the substrate holder and obliquely to the processing surfaces of the plural substrates in such a way that the plane of ejecting processing liquid and the surface of the substrates forms a little angle,

~~wherein the substrates consist of a plurality of substrates whose processing surfaces to be processed thereon are arranged generally parallel with each other;~~

~~wherein the ejecting orifices are juxtaposed with the plural substrates;~~

~~wherein the substrates are arranged so as to be rotatable about substantial centers thereof;~~

~~wherein the nozzle is formed so as to eject the processing liquid obliquely to the processing surfaces of the plural substrates and to substantial centers of the substrates;~~

wherein the nozzle comprises:

a nozzle body provided with a plurality of pedestals formed corresponding to the substrates to be processed; and

nozzle members attached to the ~~plural~~ plurality of pedestals, the nozzle members having the ejecting orifices formed therein; and

wherein surfaces of the pedestals incline so that the nozzle members can eject the processing liquid obliquely to the processing surfaces of the substrates held by the substrate holder, in such a way that the plane of ejecting processing liquid and the surface of the substrates forms a little angle.

Claim 12. (previously presented) A liquid processing apparatus as claimed in Claim 10, wherein

the nozzle has a nozzle body having the ejecting orifices formed therein, the ejecting orifices being inclined so as to eject the processing liquid obliquely to the processing surfaces of the substrates.

Claim 13. (previously presented) A liquid processing apparatus as claimed in Claim 10, wherein the ejecting orifices comprise:

a plurality of main ejecting orifices arranged so as to correspond to the plural substrates respectively; and

extra ejecting orifices arranged further outside of the outermost ones of the main ejecting orifices.

Claim 14. (previously presented) A liquid processing apparatus as claimed in Claim 10 or 11, wherein the nozzle comprises:

a first nozzle, and

a second nozzle,

wherein the first nozzle and the second nozzle are separated from each other in the circumferential direction of the substrates, the first nozzle having a plurality of first ejecting orifices to eject the processing liquid to alternately-positioned ones of the plural substrates to be processed, and the second nozzle having a plurality of second ejecting orifices to eject the processing liquid to alternately-positioned ones of the plural substrates except the alternately-positioned substrates charged by the first nozzle.

Claim 15. (previously presented) A liquid processing apparatus as claimed in Claim 10 or 11, wherein the ejecting orifices are arranged in a space above a horizontal plane including central axes of the substrates to be processed.

Claim 16. (previously presented) A liquid processing apparatus as claimed in Claim 10, wherein the processing container includes a lower portion which is formed to have an inner face with an inclination intersecting the horizontal direction at an angle more than 5 degrees.

Claim 17. (previously presented) A liquid processing apparatus as claimed in Claim 10, wherein the nozzle has an inside nozzle passage providing the ejecting orifice with the processing liquid, a sectional shape of the inside nozzle passage being rectangular.

Claim 18. (currently amended) A liquid processing apparatus comprising:

a wafer holding ~~member~~ members for holding a plurality of wafers juxtaposed in an axial direction of the wafers, the wafer holding members extending in the axial direction of the wafers along circumferences of the plurality of wafers;

a pair of circular plates ~~plate~~ arranged at both ends of ~~on which~~ the wafer holding ~~member is built~~ members for supporting the wafer holding members and rotating the wafers;

a processing container for accommodating the circular ~~plate~~ plates and the wafer holding ~~member~~ members therein, the processing container having an inner surface facing the circular plates ~~plate~~; and

an ejecting orifice formed on the inner surface of the processing container, an ejecting orifice being formed so that the ejecting orifice ejects ~~for ejecting~~ a processing fluid towards a surface of the circular plate facing the inner surface of the processing container.

Claims 19 and 20 (canceled).

Claim 21. (currently amended) A liquid processing apparatus comprising:

a processing container surrounding a processing chamber in which one or more substrates to be processed are accommodated, the substrates being shaped in circular plates ~~consisting of a plurality of substrates whose processing surfaces to be processed thereon are arranged generally parallel with each other and so as to be rotatable about substantial centers thereof;~~

a substrate holder arranged in the processing container for holding the substrates which are juxtaposed in an axial direction of the circular substrates in such a way that processing surfaces of the substrates are arranged in parallel with each other and for rotating the substrates about the axis of the circular substrates; and

a nozzle arranged in the processing container for supplying the substrates with a processing liquid thereby to carry out a liquid process, the nozzle having a plurality of ejecting orifices juxtaposed with the plural substrates, the ejecting orifices ejecting the processing liquid in a plane, the ejecting orifices is being formed so as to eject the processing liquid obliquely to the processing surfaces of the plural substrates held by the substrate holder to make the processing liquid come into contact with substantial centers of the substrates, ~~the nozzle having ejecting orifices to eject the processing liquid in a plane, the ejecting orifices being juxtaposed with respect to the plural substrates;~~

wherein the ejecting orifices are located relative to the position of the substrates held by the substrate holder so that in plan view the ejecting orifices do not overlap with the substrates, ~~so that in plan view the ejecting orifices do not overlap with the substrates,~~ whereby processing liquid adhered to ~~an~~ the ejecting orifice orifices ~~of the orifices does~~ do not drip down onto the substrates.

Claim 22. (currently amended) A liquid processing apparatus according to claim 18,
comprising:

~~a wafer holding member for holding a plurality of wafers;~~

~~a circular plate on which the wafer holding member is built;~~

~~a processing container for accommodating the circular plate and the wafer holding member therein, the container having an inner surface facing the circular plate; and~~

~~an ejecting orifice formed on the inner surface for ejecting a processing fluid towards a surface of the circular plate facing the inner surface of the processing container;~~

wherein the processing fluid is a cleaning liquid.

Claim 23. (currently amended) A liquid processing apparatus according to claim 18, comprising:

~~a wafer holding member for holding a plurality of wafers;~~

~~a circular plate on which the wafer holding member is built;~~

~~a processing container for accommodating the circular plate and the wafer holding member therein, the container having an inner surface facing the circular plate; and~~

~~an ejecting orifice formed on the inner surface for ejecting a processing fluid towards a surface of the circular plate facing the inner surface of the processing container;~~

wherein the processing fluid is a drying fluid.

Claim 24. (currently amended) A liquid processing apparatus comprising:

a processing container surrounding a processing chamber in which ~~one or more~~ a plurality of substrates to be processed are accommodated, the substrates being shaped in circular plates ~~consisting of a plurality of substrates whose processing surfaces to be processed thereon are arranged generally parallel with each other and so as to be rotatable about substantial centers thereof, each of the substrates is in the form of a circular plate;~~

a substrate holder arranged in the processing container for holding the substrates which are juxtaposed in an axial direction of the circular substrates in such a way that processing surfaces of the substrates are arranged in parallel with each other and for rotating the substrates about the axis of the circular substrates; and

a nozzle arranged in the processing container for supplying the substrates with a processing liquid thereby to carry out a liquid process, the nozzle having ejecting orifices ~~ejecting being formed so as to eject~~ the processing liquid towards ~~obliquely to the processing surfaces of the plural substrates to make the processing liquid come into contact with substantial centers of the substrates held by the substrate holder and obliquely to the processing surfaces of,~~ the nozzle ~~having ejecting orifices to eject the processing liquid in a plane, the ejecting orifices being juxtaposed with respect to the plural substrates in such a way that the plane of ejecting processing liquid and the surface of the substrates forms a little angle; and~~

wherein the ejecting orifices are located so that the processing liquid is ejected against each processing surface of the rotating substrates held by the substrate holder in such a way that a width of the plane-ejected processing liquid is generally equal to a radius of the circular substrate, on the processing surface.

Claim 25. (currently amended) A liquid processing apparatus according to claim 24, comprising:

~~a processing container surrounding a processing chamber in which one or more substrates to be processed are accommodated, the substrates consisting of a plurality of substrates whose processing surfaces to be processed thereon are arranged generally~~

~~parallel with each other and so as to be rotatable about substantial centers thereof, each of the substrates is in the form of a circular plate;~~

~~a nozzle for supplying the substrates with a processing liquid thereby to carry out a liquid process, the nozzle being formed so as to eject the processing liquid obliquely to the processing surfaces of the plural substrates to make the processing liquid come into contact with substantial centers of the substrates, the nozzle having ejecting orifices to eject the processing liquid in a plane, the ejecting orifices being juxtaposed with respect to the plural substrates; and~~

~~wherein the ejecting orifices are located so that the processing liquid is ejected against each processing surface of the rotating substrates in such a way that a width of the plane ejected processing liquid is generally equal to a radius of the circular substrate, on the processing surface,~~

~~wherein the circular substrates substrate holder rotates are rotating so that a direction of ejected liquid is opposite to a moving direction of a peripheral part of the rotating circular substrate in an area where processing liquid comes into contact with the surface of the rotating circular substrate held by the substrate holder.~~

Claim 26. (new) A liquid processing apparatus comprising:

- a processing container;
- a means for holding a substrate; and
- a means for ejecting liquid.